



CALS TEST NETWORK

# AFCTN Test Report 93-067

AFCTB-ID  
93-038

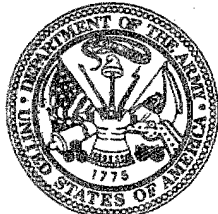


## Technical Publication Transfer

Using:



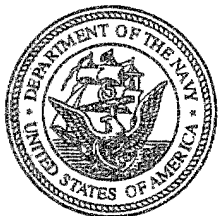
Hughes Missile System's Data



MIL-M-28001A (SGML)

MIL-R-28002A (Raster)

MIL-D-28003 (CGM)



## Quick Short Test Report



26 April 1993

DTIC QUALITY INSPECTED 3



Prepared for

Electronic Systems Center

19960822 186

DISTRIBUTION STATEMENT A

Approved for public release;  
Distribution Unlimited

# DISCLAIMER NOTICE



**THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.**

**AFCTN Test Report**  
93-067

**AFCTB-ID**  
93-038

---

**Technical Publication Transfer**  
**Using:**  
**Hughes Missile System's Data**

**MIL-M-28001A (SGML)**  
**MIL-R-28002A (Raster)**  
**MIL-D-28003 (CGM)**

**Quick Short Test Report**  
**15 April 1993**

---

**Prepared By**  
Air Force CALS Test Bed  
Wright-Patterson AFB, OH 45433

**AFCTB Contact**  
Gary Lammers  
(513) 427-2295

**AFCTN Contact**  
Mel Lammers  
(513) 427-2295

**DTIC QUALITY INSPECTED 3**

## DISCLAIMER

This document was prepared as an account of work sponsored by the Air Force. Neither the United States Government, the Air Force, nor any of their employees makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, nor represents that its use would not infringe on privately owned rights. Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or the Air Force. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or the Air Force, and shall not be used for advertising or product endorsement purposes.

Available to the public from the  
National Technical Information Service  
U.S. Department of Commerce  
5285 Port Royal Road  
Springfield, VA 22161

This report and those involved in its preparation do not endorse any product, process, or company stated herein. Use of these means by anyone does not imply certification by the Air Force CALS Test Network (AFCTN).

---

---

## Contents

1.	Introduction.....	1
1.1.	Background.....	1
1.2.	Purpose.....	2
2.	Test Parameters.....	3
3.	1840A Analysis.....	6
3.1.	External Packaging.....	6
3.2.	Transmission Envelope.....	6
3.2.1.	Tape Formats.....	6
3.2.2.	Declaration and Header Fields.....	7
4.	IGES Analysis.....	7
5.	SGML Analysis.....	7
6.	Raster Analysis.....	8
7.	CGM Analysis.....	9
8.	Conclusions and Recommendations.....	12
9.	Appendix A - Tapetool Report Logs.....	13
9.1.	Tape Catalog.....	13
9.2.	Tape Evaluation Log.....	14
9.3.	Tape File Set Validation Log.....	17
10.	Appendix B - Detailed SGML Analysis.....	21
10.1.	Exoterica Validator Log.....	21
10.2.	Datalogics Parser Log.....	23
11.	Appendix C - Detailed Raster Analysis.....	24

---

---

11.1. File D001R001.....	24
11.1.1. Output HiJaak for Windows.....	24
11.1.2. Output g42tiff/IslandPaint.....	25
11.1.3. Output IGESView.....	26
11.1.4. Output Preview.....	27
11.1.5. Output HiJaak/Ventura Publisher.....	28
11.2. File D001R004.....	29
11.2.1. Output HiJaak for Windows.....	29
11.2.2. Output g42tiff/IslandPaint.....	30
11.2.3. Output IGESView.....	31
11.2.4. Output Preview.....	32
11.2.5. Output HiJaak/Ventura Publisher.....	33
12. Appendix D - Detailed CGM Analysis.....	34
12.1. File D001C002.....	34
12.1.1. Parser Log MetaCheck.....	34
12.1.2. validcgm Log.....	35
12.1.3. Designer.....	37
12.1.4. Output Harvard Graphics.....	38
12.1.5. Output forreview.....	39
12.1.6. Output cgm2draw/IslandDraw.....	40
12.1.7. Output Ventura Publisher.....	41
12.1.8. Output IslandDraw.....	42
12.2. File D001C003.....	43
12.2.1. Parser Log MetaCheck.....	43

---

12.2.2. validcgm Log.....	44
12.2.3. Designer.....	46
12.2.4. Output Harvard Graphics.....	47
12.2.5. Output forreview.....	48
12.2.6. Output cgm2draw/IslandDraw.....	49
12.2.7. Output Ventura Publisher.....	50
12.2.8. Output IslandDraw.....	51
12.3. File D001C005.....	52
12.3.1. Parser Log MetaCheck.....	52
12.3.2. validcgm Log.....	53
12.3.3. Output Ventura Publisher.....	55

## 1. Introduction

### 1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALs) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALs standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALs initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

---



## 1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Hughes Missile System's interpretation and use of the CALS standards, in transferring technical publication data. They used CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

## 2. Test Parameters

Test Plan: AFCTB 93-038

Date of  
Evaluation: 15 April 1993

Evaluator: George Elwood  
Air Force CALS Test Bed  
Det 2 HQ ESC/ENCP  
4027 Colonel Glenn Hwy  
Suite 300  
Dayton OH 45431-1672

Data  
Originator: Marilyn Lopez  
Hughes Missile Systems Company  
P O Box 7928  
Canoga Park CA 91309-7928  
(818) 702-3131

Data  
Description: Technical Manual Test  
1 Document Declaration file  
1 Document Type Definitions (DTD)  
1 Initial Graphics Exchange Specification  
(IGES) file  
1 Text file  
1 Raster file  
1 Computer Graphics Metafile (CGM) file

Data  
Source System:

1840A

### HARDWARE

Sun SparcStation

### SOFTWARE

Interleaf

---

Text/Standard Generalized Markup Language (SGML)

HARDWARE

Sun Sparcstation

SOFTWARE

Interleaf

Raster

HARDWARE

Sun SparcStation

SOFTWARE

Interleaf

CGM

HARDWARE

Sun SparcStation

SOFTWARE

Interleaf

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN Tapetool v1.2.8 UNIX

XSoft CAPS/CALS v40.4

Texas Instruments (TI) Tapetool v1.0.1

MIL-M-28001 (SGML)

SUN SparcStation 2

ArborText ADEPT v4.2.1

SoftQuad Author/Editor v2.1

Cheetah Gold 486

Datalogics ParserStation v3.36

Exoterica XGMLNormalizer v1.2e3.2

Exoterica Validator v2.0 EXL.

SoftQuad Author/Editor v2.1

McAfee & McAdam Sema Mark-it v2.3

Public Domain sgmls

**MIL-R-28002 (Raster)**

SUN SparcStation 2

ArborText g42tiff

AFCTN validg4

AFCTN calstb.475

IGES Data Analysis (IDA) IGESView v3.0

Island Graphics IslandPaint v3.0

Cheetah

Inset Systems HiJaak v2.1

Inset Systems HiJaak Window v1.0

Software Publishing Corporation

(SPC) Harvard Graphics v3.0

Corel Ventura Publisher

**MIL-D-28003 (CGM)**

SUN SparcStation 2

ArborText cgm2draw

Island Graphics IslandDraw v3.0

Carberry CADLeaf

Advance Technology Center

(ATC) forreview v1.1.1

Cheetah Gold 486

ATC MetaView R 1.12

ATC MetaCheck R 2.05

SPC Harvard Graphics v3.05

Inset Systems HiJaak v2.1

Inset Systems HiJaak v1.0 Windows

Micrografx Designer v3.1

Corel Ventura Publisher

**Standards**

**Tested:**

MIL-STD-1840A

MIL-M-28001A

MIL-R-28002A

MIL-D-28003

### **3. 1840A Analysis**

#### **3.1 External Packaging**

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a commercial overnight mailing bag. The tape did not have physical padding but was not damaged. The exterior of the bag was marked with the magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was enclosed in barrier sheet material as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the bag was a packing list showing all included files.

#### **3.2 Transmission Envelope**

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

##### **3.2.1 Tape Formats**

The tape was run through the AFCTN *Tapetool* v1.2.8 utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was read using the TI version of *Tapetool* v1.0.1. No errors were reported during this procedure.

The tape was read using XSoft's *CAPS read1840A* utility with no reported errors.

The physical structure of the tape meets the CALS MIL-STD-1840A requirements.

### 3.2.2 Declaration and Header Fields

One error was found in the Document Declaration file header. In Document Declaration file D001, an invalid change level was flagged. MIL-STD-1840A, para. 5.1.1.2 requires that the value for this record be either the word "ORIGINAL" or revision number, followed by the change level number and then the date. The tape value indicated it was original and then included a date.

chglvl: ORIGINAL, 19930308

\*\*\* ERROR (MIL-STD-1840A; 5.1.1.2) - Invalid change level encountered.

\*\*\* NOTE (MIL-STD-1840A; 5.1.1.2) - Change level should be the word ORIGINAL or a Revision Number followed by a Change Level Number followed by a Change Level Date. They should be separated by a comma or space.

No other errors were reported in the Document Declaration file or data file headers.

Because of the error in the Document Declaration file, this portion of the tape does not meet the CALS MIL-STD-1840A requirements.

## 4. IGES Analysis

No Initial Graphics Exchange Specification (IGES) files were included on this tape.

## 5. SGML Analysis

The AFCTB has several parsers available for evaluating submitted DTD and Text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report. Changes to DTD or Text files required by each system are not documented in the report.

---

The Text and DTD files from the tape were evaluated using Datalogics' *ParseStation*. Several defined models were not used. See the log in the Appendix to this report for a list.

The Text and DTD files from this document were evaluated using the *Exoterica Validator* parser. The same errors defined by the Datalogics' parser are reported here.

The Text and DTD files from this document were tested using the *Exoterica XGMLNormalizer* parser. No errors were reported.

The Text and DTD files from the tape were evaluated using McAfee & McAdam's *Sema Mark-it* parser. No errors were reported.

The Text and DTD files from the tape were evaluated using the Public Domain *sgmls* parser. No errors were reported.

The Text and DTD meet the CALS MIL-M-28001A specification.

## 6. Raster Analysis

The tape contained two Raster files. Both files were evaluated using the AFCTN *validg4* utility with no reported errors. The files were read into the AFCTN *calstb.475* Raster viewer without a reported error. The images displayed correctly.

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The files were converted using ArborText's *g42tiff* utility without a reported error. The resulting files were imported into Island Graphics' *IslandPaint* without a reported error. The images displayed and printed without a problem.

---

The files were imported into IDA's *IGESView* software without a reported error. The images displayed and printed without a problem.

The files were converted using Inset Systems' *HiJaak for DOS* without a problem. The resulting files were read into Corel's *Ventura Publisher* without a reported error. The images displayed and printed without a problem.

The files were imported directly into Inset Systems' *HiJaak for Windows*, displayed and printed without a reported error.

The files were converted using Rosetta Technologies' *Prepare* without a reported error. The resulting files were read into *Preview*, displayed and printed without a problem.

The two Raster files on this tape meet the CALS MIL-R-28002A specification.

## 7. CGM Analysis

The tape contained three CGM files. These files were evaluated using ATC's *MetaCheck* with CALS options. This utility, which is not the most current version, reported all files were valid.

The files were evaluated using the beta version of the AFCTN *validcgm* utility. This utility reported errors in all three files. The log files are included in the Appendix of this report.

The AFCTB has several tools for viewing CGM files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The files were converted using ArborText's *cgm2draw* utility. No errors were reported during the conversion procedure. The resulting files were read into Island Graphics' *Island-Draw*. File D001C002 display correctly although additional blocks were noted. These added blocks were flipped versions

---



of correct blocks. When printed, the file went across three pages even though it should have printed to size. File D001C003 displayed and printed with many flipped line graphic entities. The entities appear to be inserted 180 degrees out of phase in the vertical plane. This is consistent with the ArborText's *cgm2draw* utility. File D001C005 did not display anything on the screen.

The files were imported into Micrografx's *Designer*. File D001C002 displayed correctly although the image continued off the defined page. When printed the block that displayed off the defined page did not print. File D001C003 imported without a reported error. The images displayed on the defined page. This image printed correctly. File D001C005 reported an error during conversion and did not display.

According to Michael Harrison of Micrografx, "The version of Micrografx Designer used with this report has been replaced with Designer version 4.0 which reads and prints these files successfully."

The files were imported into ATC's *forreview*. File D001C002 did not display completely. Only the top block displayed and printed correctly. File D001C003 also did not display completely. The lower and left side of the image did not display or print. The text also overflowed the defined box area.

The images were displayed using ATC's *MetaView* software. File D001C002 and C003 displayed with reported errors. The text font displayed incorrectly. File C005 did not display on the screen and also generated an error message.

The files were imported into SPC's *Harvard Graphics 3.05* with reported errors. All three files generated error messages on clipped objects and adjustment of points. File C002 only displayed and printed the area around the top block. The top block lines did not print. In file C003 the lines between the flow chart symbols did not print. The text overflowed the defined symbols areas. File C005 did not display anything on the screen.

The files were directly imported into Island Graphics' *IslandDraw* with no reported errors. File C002 only displayed and printed the top block. File C003 only displayed and printed the upper right section of the image. The text all

remained within the define flow chart symbols. File C005 did not display on the screen.

The files were imported into Carberry's *CADLeaf* software. File C002 only displayed and printed the top block. File C003 displayed and printed a large part of the upper right section. Some text overflow was noted on the bottom line. File C005 did not display on the screen.

The files were imported directly into Corel's *Ventura Publisher* with no reported errors. File C002 displayed and printed completely with the exception of the blocks around the text. File C003 displayed and printed completely with the exception of the flow chart symbols. File C005 displayed and printed completely. This was the only software which displayed file C005.

An attempt to display the files using Inset Systems' *HiJaak for Windows* resulted in a locked system, which required a reboot. The same thing occurred when using Inset Systems' *HiJaak for DOS*.

The files were reported as meeting the CALS MIL-D-28003 specification.

## 8. Conclusions and Recommendations

In summary, the tape physical structure from Hughes Missile System Company was correct with no reported errors. The tape did have an error in the Declaration file.

The Text and DTD files meet the CALS MIL-M-28001A specification.

The Raster file meets the CALS MIL-R-28002A specification.

The CGM file meets the CALS MIL-D-28003 specification.

Because of the error in the Document Declaration file, the tape does not meet the CALS MIL-STD-1840A requirements.

## 9. Appendix A - Tapetool Report Logs

### 9.1 Tape Catalog

Air Force CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes  
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Apr 15 14:22:21 1993

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set088

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001R001	Raster	F/00128	02048/000009	Extracted
D001C002	CGM	F/00080	00800/000002	Extracted
D001C003	CGM	F/00080	00800/000005	Extracted
D001R004	Raster	F/00128	02048/000008	Extracted
D001C005	CGM	F/00080	00800/000002	Extracted
D001T006	Text	D/00260	02048/000019	Extracted
D001G007	DTD	D/00260	02048/000027	Extracted

Catalog Process terminated normally.

## 9.2 Tape Evaluation Log

Air Force CALS Test Network Tape Evaluation - Version 1.2; Release Number 8  
Standards referenced:

ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes  
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Apr 15 14:22:14 1993

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1CALS01

4

Label Identifier: VOL1

Volume Identifier: CALS01

Volume Accessibility:

Owner Identifier:

Label Standard Version: 4

HDR1D001

CALS0100010001000100 93095 00000 000000 ILEAF VER 1.7

Label Identifier: HDR1

File Identifier: D001

File Set Identifier: CALS01

File Section Number: 0001

File Sequence Number: 0001

Generation Number: 0001

Generation Version Number: 00

Creation Date: 93095

Expiration Date: 00000

File Accessibility:

Block Count: 000000

Implementation Identifier: ILEAF VER 1.7

HDR2D0204800260

00

Label Identifier: HDR2

Recording Format: D

Block Length: 02048

Record Length: 00260

Offset Length: 00

\*\*\*\*\* Tape Mark \*\*\*\*\*

---

Actual Block Size Found = 2048 Bytes.  
Number of data blocks read = 1.

\*\*\*\*\* Tape Mark \*\*\*\*\*

EOF1D001                    CALS0100010001000100 93095 00000 000001ILEAF VER 1.7

Label Identifier: EOF1  
File Identifier: D001  
File Set Identifier: CALS01  
File Section Number: 0001  
File Sequence Number: 0001  
Generation Number: 0001  
Generation Version Number: 00  
Creation Date: 93095  
Expiration Date: 00000  
File Accessibility:  
Block Count: 000001  
Implementation Identifier: ILEAF VER 1.7

EOF2D0204800260

00

Label Identifier: EOF2  
Recording Format: D  
Block Length: 02048  
Record Length: 00260  
Offset Length: 00

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

HDR1D001G007                    CALS0100010008000100 93095 00000 000000ILEAF VER 1.7

Label Identifier: HDR1  
File Identifier: D001G007  
File Set Identifier: CALS01  
File Section Number: 0001  
File Sequence Number: 0008  
Generation Number: 0001  
Generation Version Number: 00  
Creation Date: 93095  
Expiration Date: 00000  
File Accessibility:  
Block Count: 000000  
Implementation Identifier: ILEAF VER 1.7

HDR2D0204800260

00

---

Label Identifier: HDR2  
Recording Format: D  
Block Length: 02048  
Record Length: 00260  
Offset Length: 00

\*\*\*\*\* Tape Mark \*\*\*\*\*

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 27.

\*\*\*\*\* Tape Mark \*\*\*\*\*

EOF1D001G007            CALS0100010008000100 93095 00000 000027ILEAF VER 1.7

Label Identifier: EOF1  
File Identifier: D001G007  
File Set Identifier: CALS01  
File Section Number: 0001  
File Sequence Number: 0008  
Generation Number: 0001  
Generation Version Number: 00  
Creation Date: 93095  
Expiration Date: 00000  
File Accessibility:  
Block Count: 000027  
Implementation Identifier: ILEAF VER 1.7

EOF2D0204800260

00

Label Identifier: EOF2  
Recording Format: D  
Block Length: 02048  
Record Length: 00260  
Offset Length: 00

\*\*\*\*\* Tape Mark \*\*\*\*\*

\*\*\*\*\* Tape Mark \*\*\*\*\*

##### End of Volume CALS01 #####

##### End Of Tape File Set #####

Deallocating /dev/rmt0...

Tape Import Process terminated normally.

---

## 9.3 Tape File Set Validation Log

Air Force CALS Test Network File Set Evaluation - Version 1.2; Release Number 8  
Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Thu Apr 15 14:22:21 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set088

Found file: D001

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: HUGHES MISSILE SYSTEMS COMPANY, C.P., CA

srcdocid: AFCTN\_test2

srcrelid: NONE

chglvl: ORIGINAL, 19930308

\*\*\* ERROR (MIL-STD-1840A; 5.1.1.2) - Invalid change level encountered.

\*\*\* NOTE (MIL-STD-1840A; 5.1.1.2) - Change level should be the word ORIGINAL or  
a Revision Number followed by a Change Level Number followed by  
a Change Level Date. They should be separated by a comma or space.

dteisu: 19930308

dstsys: Air Force CALS Test Bed, Wright-Patterson AFB, OH 45433

dstdocid: AFCTN\_test2

dstrelid: NONE

dtetm: 19930406

dlvacc: NONE

filent: TL, G1, R2, C3

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: TEST DOCUMENT

docttl: Interleaf CALS System Maintenance

1 error(s), 0 warning(s), and 1 note(s) were encountered  
in Document Declaration File D001.

Found file: D001R001

Extracting Raster Header Records...

Evaluating Raster Header Records...

srcdocid: AFCTN\_test2

dstdocid: AFCTN\_test2



txtfilid: W  
figid: NONE  
srcgph: finger  
doccls: UNCLASSIFIED  
rtype: 1  
rorient: 000,270  
rpelcnt: 001335,002913  
rdensty: 0600  
notes: NONE

Saving Raster Header File: D001R001\_HDR  
Saving Raster Data File: D001R001\_GR4

Found file: D001C002  
Extracting CGM Header Records...  
Evaluating CGM Header Records...

srcdocid: AFCTN\_test2  
dstdocid: AFCTN\_test2  
txtfilid: W  
figid: FIGURE 1-1  
srcgph: chart  
doccls: UNCLASSIFIED  
notes: NONE

Saving CGM Header File: D001C002\_HDR  
Saving CGM Data File: D001C002\_CGM

Found file: D001C003  
Extracting CGM Header Records...  
Evaluating CGM Header Records...

srcdocid: AFCTN\_test2  
dstdocid: AFCTN\_test2  
txtfilid: W  
figid: FIGURE 2-1  
srcgph: am  
doccls: UNCLASSIFIED  
notes: NONE

Saving CGM Header File: D001C003\_HDR  
Saving CGM Data File: D001C003\_CGM

Found file: D001R004  
Extracting Raster Header Records...  
Evaluating Raster Header Records...

srcdocid: AFCTN\_test2  
dstdocid: AFCTN\_test2  
txtfilid: W  
figid: FIGURE 2-2  
srcgph: transp  
doccls: UNCLASSIFIED  
rtype: 1  
rorient: 000,270  
rpelcnt: 001878,001975  
rdensty: 0600  
notes: NONE

Saving Raster Header File: D001R004\_HDR  
Saving Raster Data File: D001R004\_GR4

Found file: D001C005  
Extracting CGM Header Records...  
Evaluating CGM Header Records...

srcdocid: AFCTN\_test2  
dstdocid: AFCTN\_test2  
txtfilid: W  
figid: FIGURE A-1  
srcgph: heart1  
doccls: UNCLASSIFIED  
notes: NONE

Saving CGM Header File: D001C005\_HDR  
Saving CGM Data File: D001C005\_CGM

Found file: D001T006  
Extracting Text Header Records...  
Evaluating Text Header Records...

srcdocid: AFCTN\_test2  
dstdocid: AFCTN\_test2  
txtfilid: W  
doccls: UNCLASSIFIED  
notes: NONE

Saving Text Header File: D001T006\_HDR  
Saving Text Data File: D001T006\_TXT

Found file: D001G007  
Extracting DTD Header Records...  
Evaluating DTD Header Records...

srcdocid: AFCTN\_test2  
dstdocid: AFCTN\_test2  
notes: NONE

Saving DTD Header File: D001G007\_HDR  
Saving DTD Data File: D001G007\_DTD

Evaluating numbering scheme...  
No errors were encountered during numbering scheme evaluation.  
Numbering scheme evaluation complete.

Checking file count...  
No errors were encountered during file count verification.  
File Count verification complete.

A total of 1 error(s), 0 warning(s), and 1 note(s) were  
encountered in Document D001.

A grand total of 1 error(s), 0 warning(s), and 1 note(s) were  
encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

---

## 10. Appendix B - Detailed SGML Analysis

### 10.1 Exoterica Validator Log

```
<!-- **Error** in "9338.sgm", line 1:
  The minimum literal following the SGML keyword in the SGML Declaration must
  be "ISO 8879:1986".
  The minimum literal is "ISO 8879-1986".
  <!SGML "ISO 8879-1986"
      /\
-->
<!-- Entity has no name, system id or public id in formal file -->.
<!-- **Warning** in "9338.sgm", line 1056:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "ARBTEXT".
-->
<!-- **Warning** in "9338.sgm", line 1056:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "CFGPGGE".
-->
<!-- **Warning** in "9338.sgm", line 1056:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "CONTASSURPG".
-->
<!-- **Warning** in "9338.sgm", line 1056:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "COVERINDEX".
-->
<!-- **Warning** in "9338.sgm", line 1056:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "ENTRYTBL".
-->
<!-- **Warning** in "9338.sgm", line 1056:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "HRULE".
-->
<!-- **Warning** in "9338.sgm", line 1056:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
```

The element is "REFDOC".

-->

<!-- \*\*Warning\*\* in "9338.sgm", line 1056:

An element is not allowed in the document instance because it does not appear in any accessible content model or it is completely excluded.  
The element is "SHORTTITLE".

-->

<!-- \*\*Warning\*\* in "9338.sgm", line 1056:

An element is not allowed in the document instance because it does not appear in any accessible content model or it is completely excluded.  
The element is "STALOC".

-->

<!-- \*\*Warning\*\* in "9338.sgm", line 1056:

An element is not allowed in the document instance because it does not appear in any accessible content model or it is completely excluded.  
The element is "TESTCODE".

-->

<!-- \*\*Warning\*\* in "9338.sgm", line 2082:

There is no element with an IDREF or IDREFS attribute value equal to a specified ID value.  
The unreferenced ID attribute value is "HEART1".

-->

<!-- 1 error and 11 warnings reported. -->

## 10.2 Datalogics Parser Log

SGML Document Type Definition Parser  
Version 3.36

Copyright (c) Datalogics 1988, 1989, 1990, 1991  
An SGML System Conforming to  
International Standard ISO 8879  
Standard Generalized Markup Language

Log file: '9338.LOG'  
SDO File: 'ctndocl.sdo'  
Namecase General is yes.  
Namecase Entity is no.  
Parsing DTD file: '9338.dtd'  
<!DOCTYPE doc Parsing DOCTYPE DOC

DTD0096: The generic ID ARBTEXT has not been used in any content  
model, inclusion, or as a doctype element.  
DTD0096: The generic ID HRULE has not been used in any content  
model, inclusion, or as a doctype element.  
DTD0096: The generic ID SHORTTITLE has not been used in any content  
model, inclusion, or as a doctype element.  
DTD0096: The generic ID CONTASSURPG has not been used in any content  
model, inclusion, or as a doctype element.  
DTD0096: The generic ID REFDOC has not been used in any content  
model, inclusion, or as a doctype element.  
DTD0096: The generic ID CFGPGE has not been used in any content  
model, inclusion, or as a doctype element.  
DTD0096: The generic ID COVERINDEX has not been used in any content  
model, inclusion, or as a doctype element.  
DTD0096: The generic ID STALOC has not been used in any content  
model, inclusion, or as a doctype element.  
DTD0096: The generic ID TESTCODE has not been used in any content  
model, inclusion, or as a doctype element.  
This DTD conforms to the ISO 8879 standard

DTO file '9338.DTO' created

closing statistics:  
Capacity points: 62200  
Bytes of DTO file string space: 11704  
SGML descriptor blocks: 6414

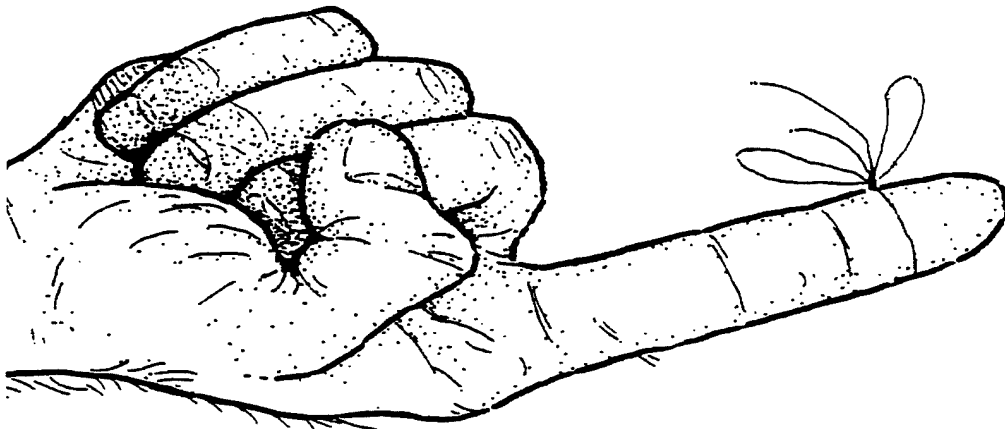
Document Type Definition is compliant and parsed normally.

Program status code: 0.

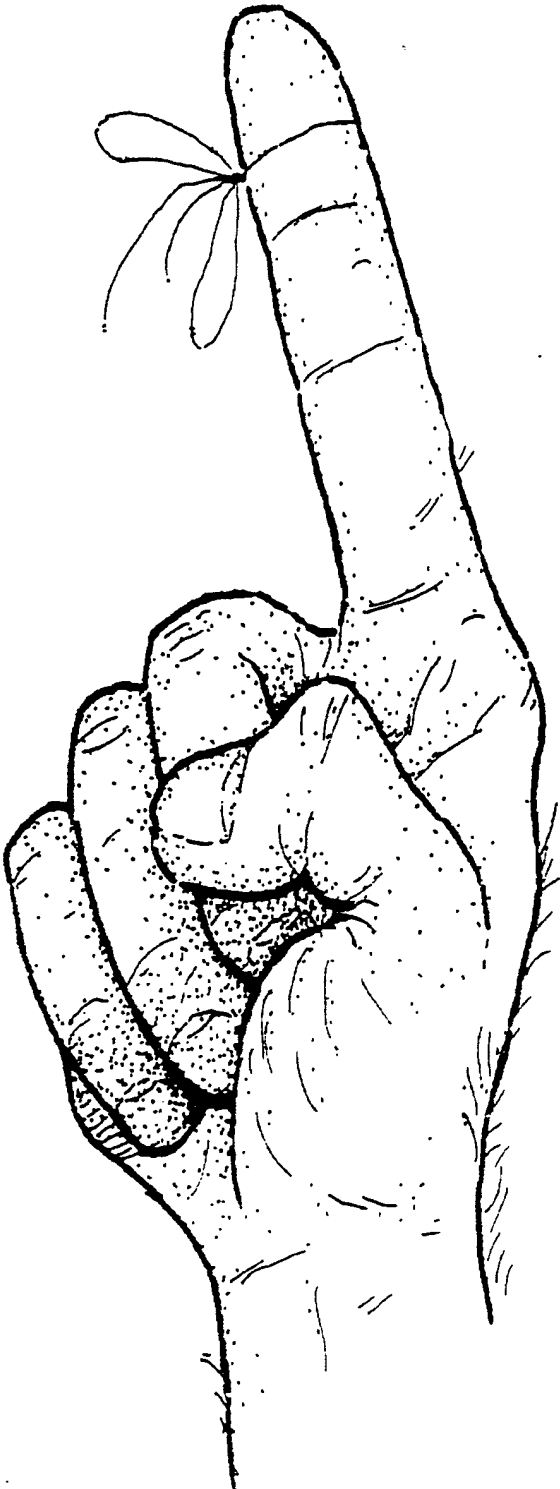
## **11. Appendix C - Detailed Raster Analysis**

### **11.1 File D001R001**

#### **11.1.1 Output HiJaak for Windows**

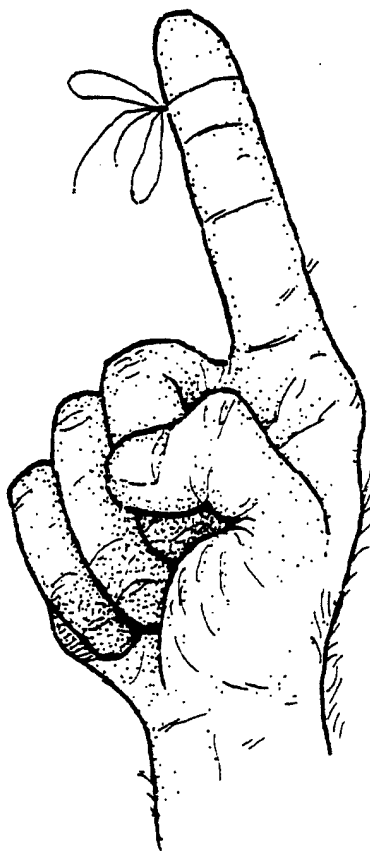


### 11.1.2 Output g42tiff/IslandPaint





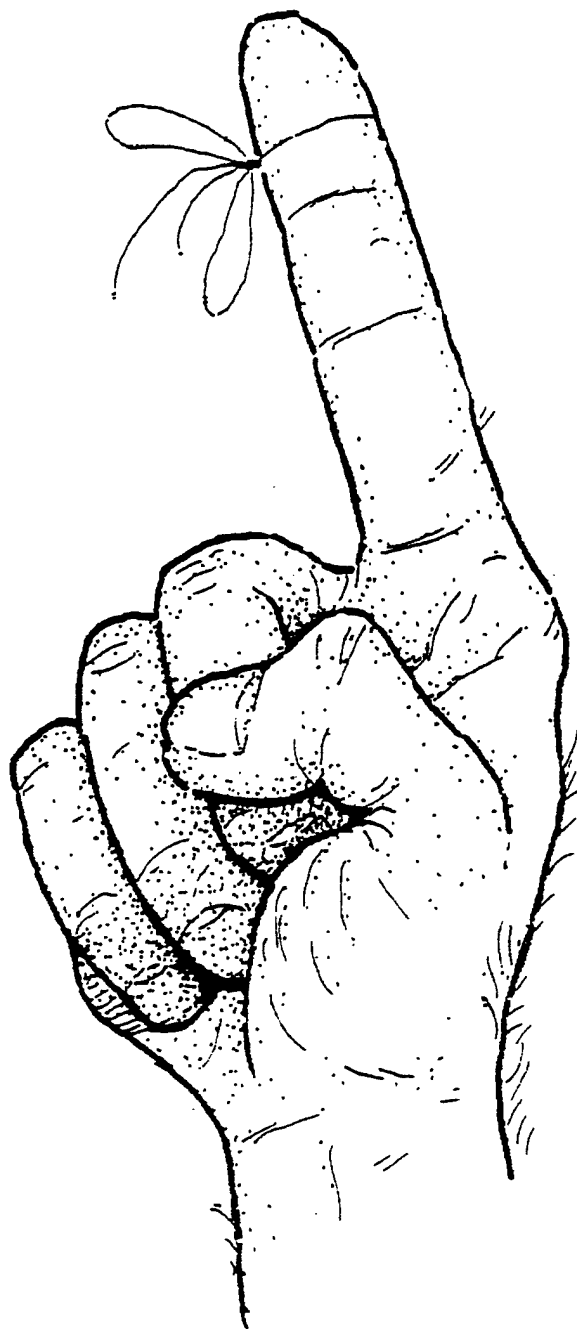
### 11.1.3 Output IGESView



#### 11.1.4 Output Preview

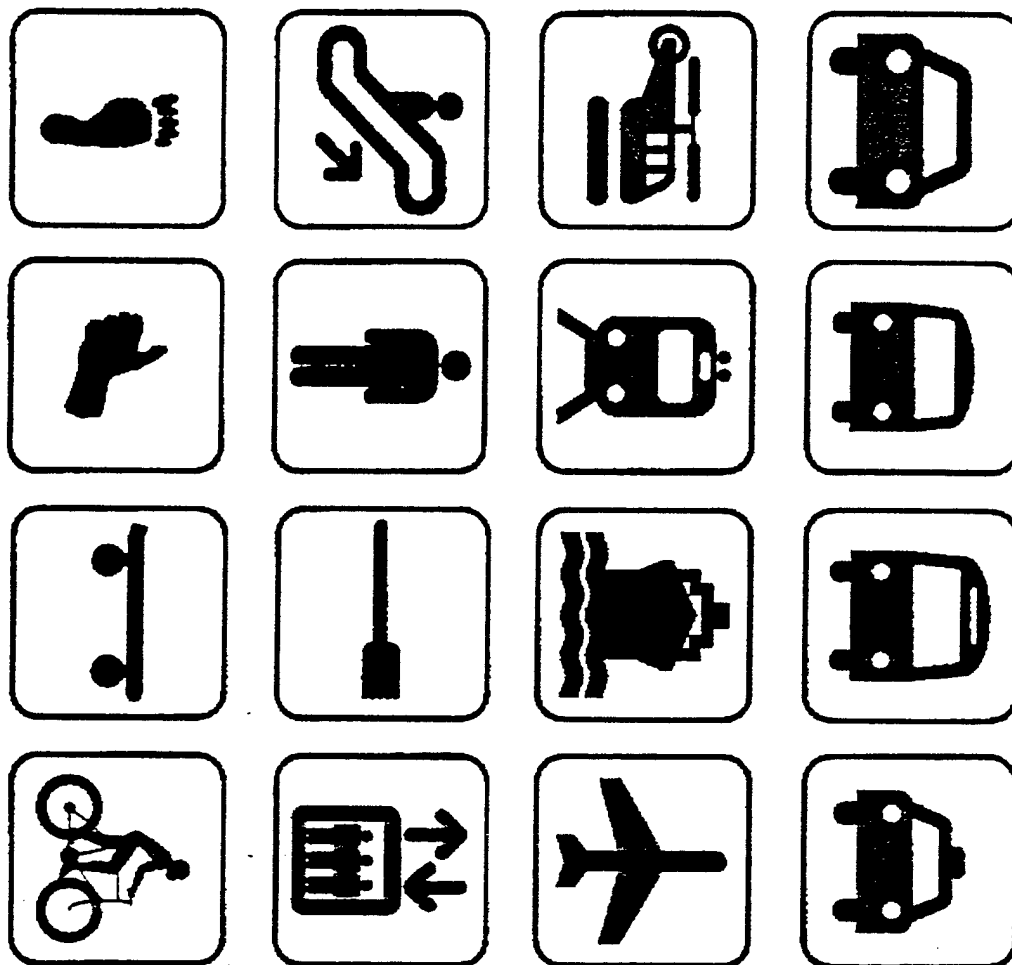


### 11.1.5 Output HiJaak/Ventura Publisher



## 11.2 File D001R004

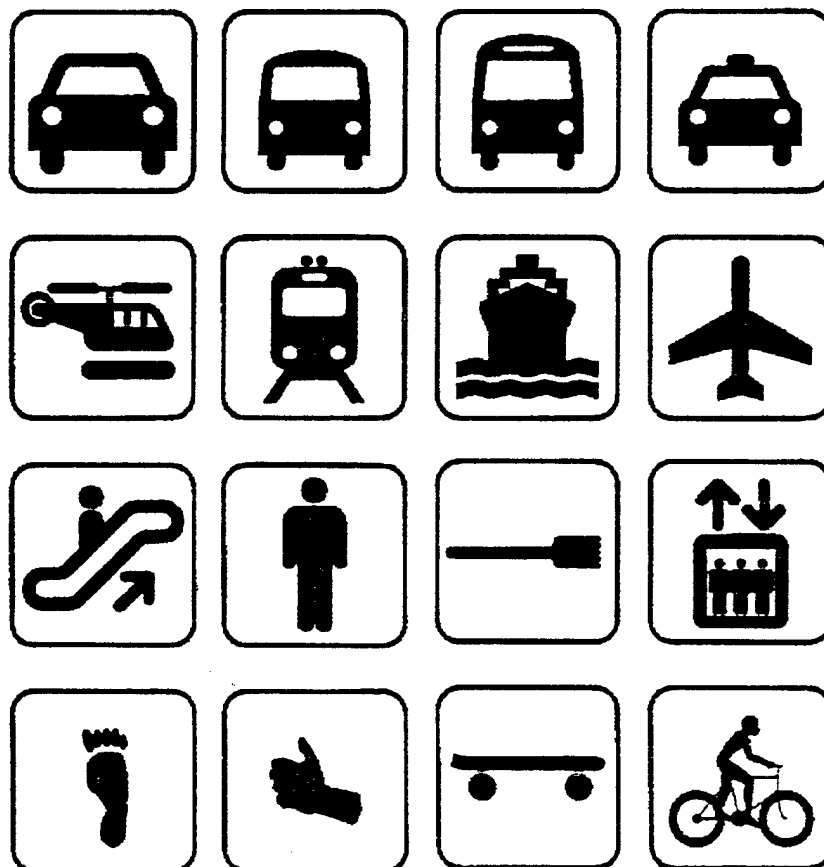
### 11.2.1 Output HiJaak for Windows



### 11.2.2 Output g42tiff/IslandPaint



### 11.2.3 Output IGESView



### 11.2.4 Output Preview



---

### 11.2.5 Output HiJaak/Ventura Publisher





---

## 12. Appendix D - Detailed CGM Analysis

### 12.1 File D001C002

#### 12.1.1 Parser Log MetaCheck

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 04/15/93 Time: 16:02:25

Metafile Examined : i:\9337\c002

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

===== Trace Report =====

Tracing not selected.

===== CGM Conformance Violation Report =====

No Errors Detected

===== CALS CGM Profile (MIL-D-28003) Report =====

No profile discrepancies detected.

===== Conformance Summary Report =====

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 04/15/93 Time: 16:02:27

Name of CGM under test: i:\9337\c002.cgm

Encoding : Binary

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

BEGIN METAFILE string : "Created file chart\_cgm from chart\_cgm.sty"  
METAFILE DESCRIPTION : "Interleaf Inc. MDL/G CGM 1992 \*\*\*  
MIL-D-28003/BASIC-1"

---

Picture 1 starts at octet offset 390; string contains: "chart"

Conformance Summary : This file conforms to the CGM specification.  
This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested  
55 Elements Tested  
858 Octets Tested

```
=====
|      No Errors Were Detected      |
=====
```

===== End of Conformance Report =====

## 12.1.2 validegcm Log

Analysis for file c002.cgm using table table

ERROR: invalid times used per CGM (2), std B

ERROR: invalid times used per Picture (2), std B

(14, 258) (1, 12, 12) Metafile Defaults Replacement

ERROR: illegal in this state (2), std B

ERROR: required precursor (0, 3) not yet seen

(14.1, 0) (2, 6, 8) VDC Extent (0, 0) (32767, 32767)

ERROR: invalid times used per CGM (3), std B

ERROR: invalid times used per Picture (3), std B

(15, 274) (1, 12, 6) Metafile Defaults Replacement

ERROR: illegal in this state (2), std B

ERROR: required precursor (0, 4) not yet seen

(15.1, 0) (5, 11, 2) Text Precision Stroke

(0, 1) occurred 1 time

(0, 2) occurred 1 time

(0, 3) occurred 1 time

(0, 4) occurred 1 time

(0, 5) occurred 1 time

(1, 1) occurred 1 time

(1, 2) occurred 1 time

(1, 3) occurred 1 time

(1, 4) occurred 1 time

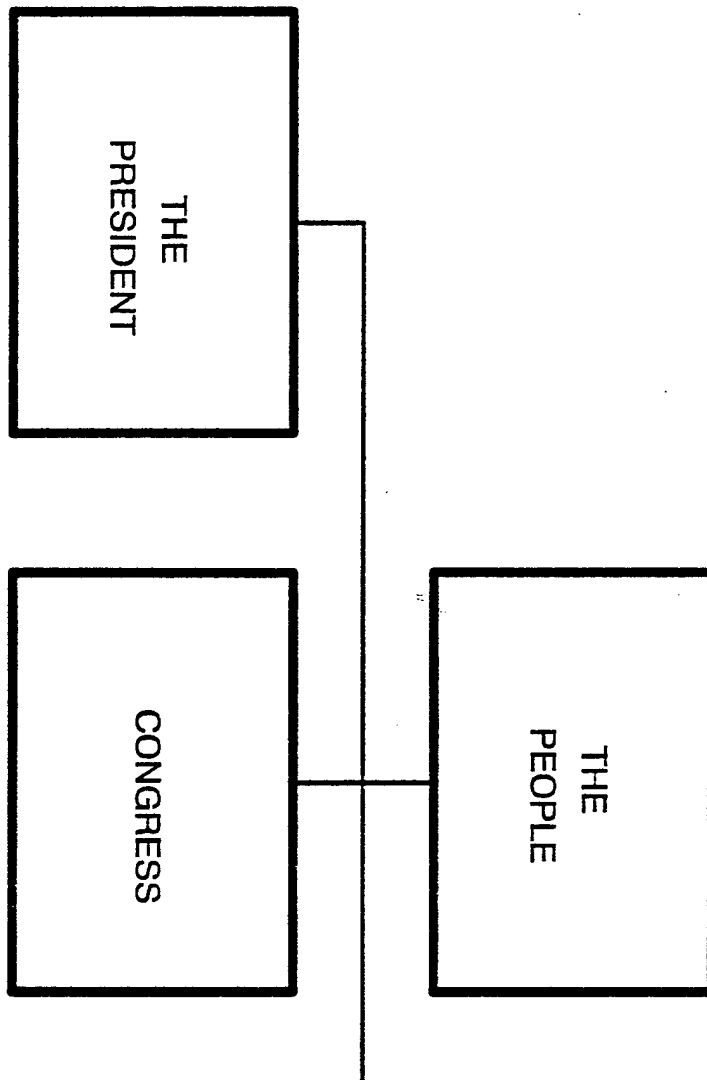
(1, 5) occurred 1 time

(1, 6) occurred 1 time

(1, 7) occurred 1 time

(1, 8) occurred 1 time  
(1, 9) occurred 1 time  
(1, 10) occurred 1 time  
(1, 11) occurred 1 time  
(1, 12) occurred 3 times  
(1, 12) occurred illegally 2 times  
(1, 13) occurred 1 time  
(1, 15) occurred 1 time  
(2, 1) occurred 1 time  
(2, 2) occurred 1 time  
(2, 3) occurred 1 time  
(2, 4) occurred 1 time  
(2, 5) occurred 1 time  
(2, 6) occurred 2 times  
(2, 6) occurred illegally 1 time  
(2, 7) occurred 1 time  
(3, 1) occurred 1 time  
(4, 1) occurred 4 times  
(4, 4) occurred 8 times  
(4, 7) occurred 4 times  
(5, 3) occurred 1 time  
(5, 4) occurred 1 time  
(5, 11) occurred 1 time  
(5, 11) occurred illegally 1 time  
(5, 14) occurred 1 time  
(5, 15) occurred 1 time  
(5, 16) occurred 1 time  
(5, 18) occurred 1 time  
(5, 23) occurred 1 time  
(5, 28) occurred 1 time  
(5, 29) occurred 1 time  
(5, 30) occurred 1 time  
(5, 34) occurred 1 time

### 12.1.3 Designer



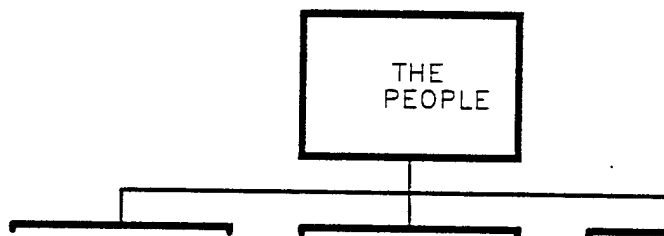
#### 12.1.4 Output Harvard Graphics

THE  
PEOPLE



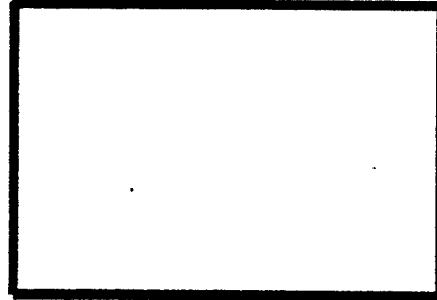
HG305 - C002

### 12.1.5 Output for review



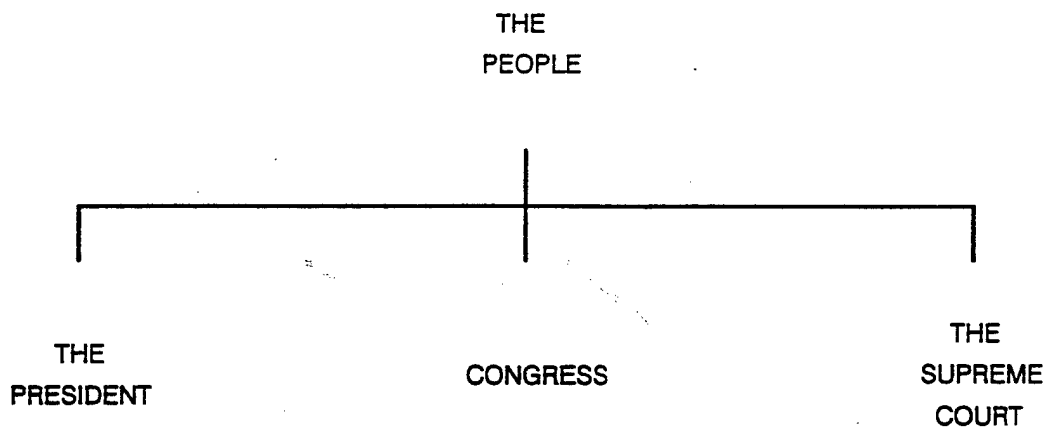
---

### 12.1.6 Output cgm2draw/IslandDraw



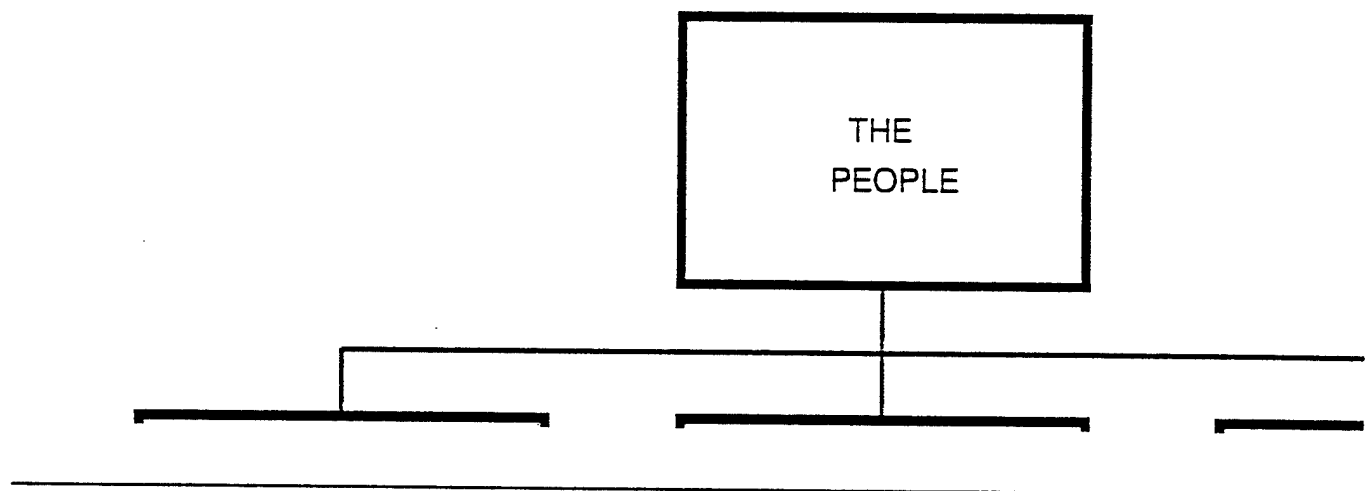
THE  
PEOPLE

### 12.1.7 Output Ventura Publisher





### 12.1.8 Output IslandDraw



## 12.2 File D001C003

### 12.2.1 Parser Log MetaCheck

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 04/15/93 Time: 16:02:38

Metafile Examined : i:\9337\c003

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

===== Trace Report =====

Tracing not selected.

===== CGM Conformance Violation Report =====

No Errors Detected

===== CALS CGM Profile (MIL-D-28003) Report =====

No profile discrepancies detected.

===== Conformance Summary Report =====

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 04/15/93 Time: 16:02:41

Name of CGM under test: i:\9337\c003.cgm

Encoding : Binary

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

BEGIN METAFILE string : "Created file am\_cgm from am\_cgm.sty"

METAFILE DESCRIPTION : "Interleaf Inc. MDL/G CGM 1992 \*\*\*

MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 384; string contains: "am"

---

---

Conformance Summary : This file conforms to the CGM specification.  
This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested  
160 Elements Tested  
2834 Octets Tested

=====  
| No Errors Were Detected |  
=====

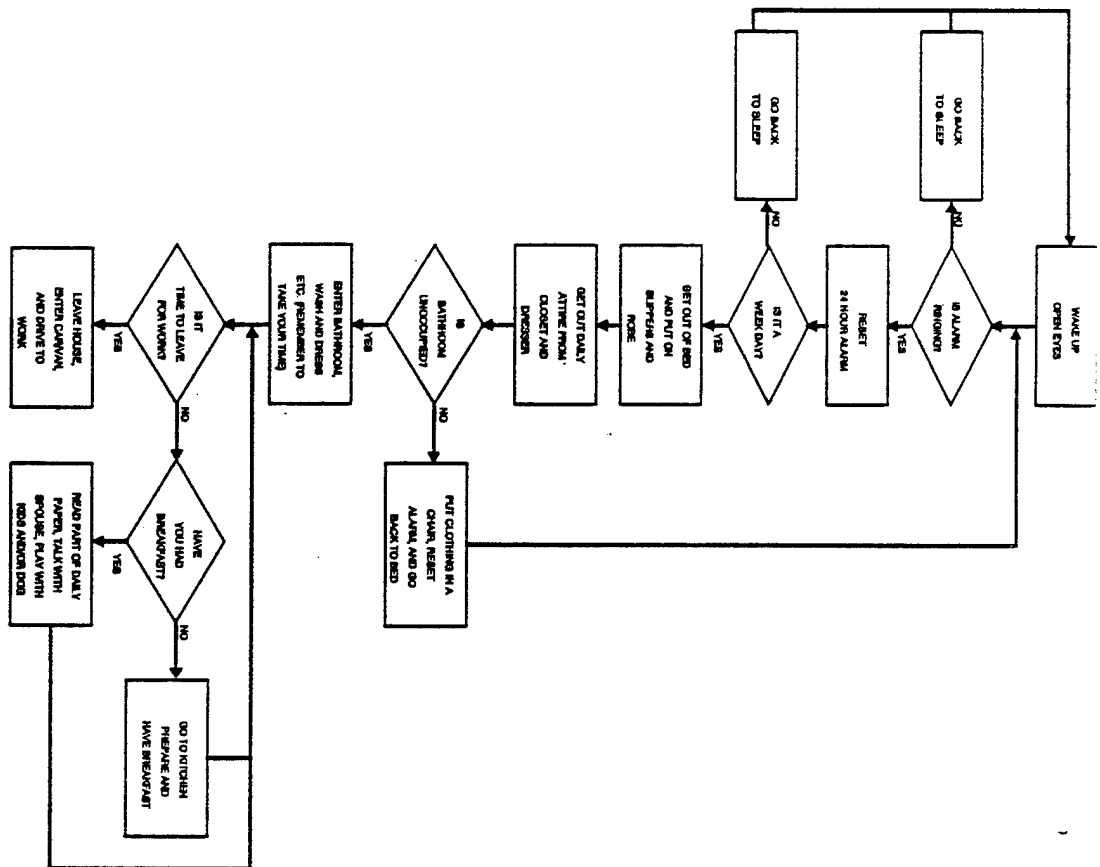
===== End of Conformance Report =====

## 12.2.2 validcgm Log

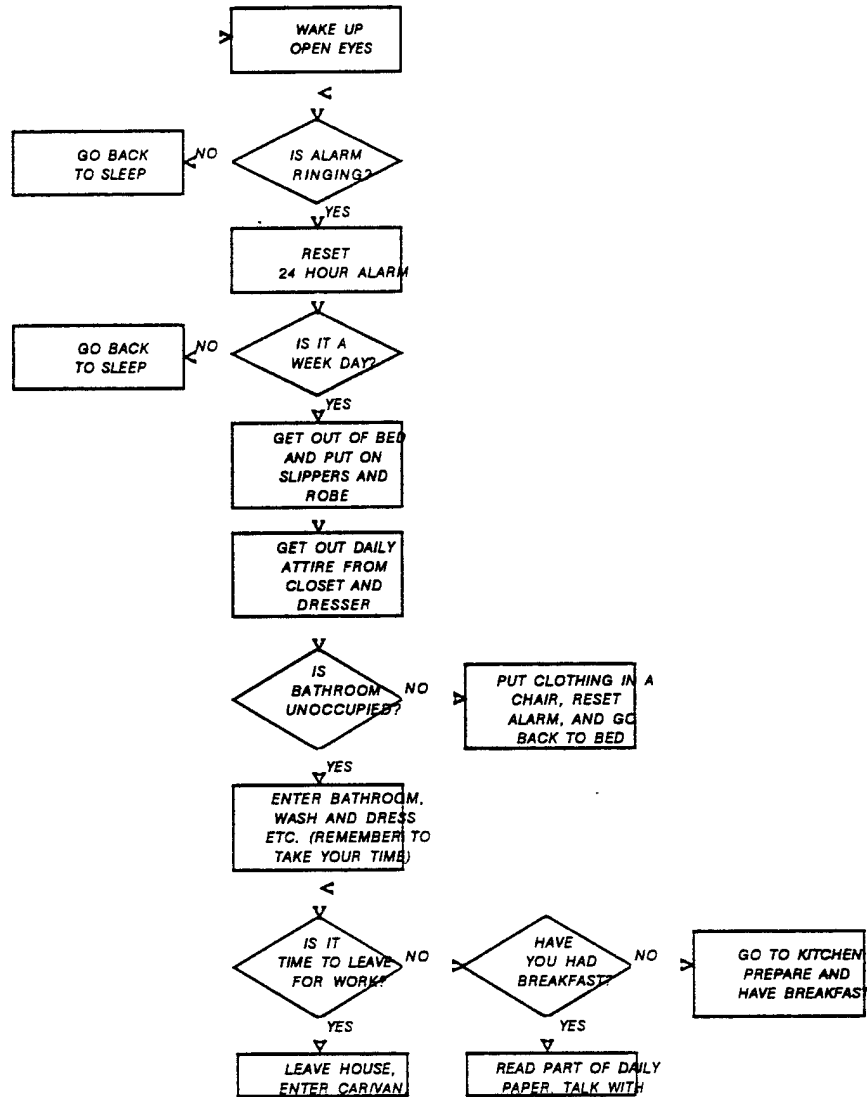
Analysis for file c003.cgm using table table  
ERROR: invalid times used per CGM (2), std B  
ERROR: invalid times used per Picture (2), std B  
(14, 252) (1, 12, 12) Metafile Defaults Replacement  
ERROR: illegal in this state (2), std B  
ERROR: required precursor (0, 3) not yet seen  
(14.1, 0) (2, 6, 8) VDC Extent (0, 0) (32767, 32767)  
ERROR: invalid times used per CGM (3), std B  
ERROR: invalid times used per Picture (3), std B  
(15, 268) (1, 12, 6) Metafile Defaults Replacement  
ERROR: illegal in this state (2), std B  
ERROR: required precursor (0, 4) not yet seen  
(15.1, 0) (5, 11, 2) Text Precision Stroke  
(0, 1) occurred 1 time  
(0, 2) occurred 1 time  
(0, 3) occurred 1 time  
(0, 4) occurred 1 time  
(0, 5) occurred 1 time  
(1, 1) occurred 1 time  
(1, 2) occurred 1 time  
(1, 3) occurred 1 time  
(1, 4) occurred 1 time  
(1, 5) occurred 1 time  
(1, 6) occurred 1 time  
(1, 7) occurred 1 time  
(1, 8) occurred 1 time  
(1, 9) occurred 1 time  
(1, 10) occurred 1 time

(1, 11) occurred 1 time  
(1, 12) occurred 3 times  
(1, 12) occurred illegally 2 times  
(1, 13) occurred 1 time  
(1, 15) occurred 1 time  
(2, 1) occurred 1 time  
(2, 2) occurred 1 time  
(2, 3) occurred 1 time  
(2, 4) occurred 1 time  
(2, 5) occurred 1 time  
(2, 6) occurred 2 times  
(2, 6) occurred illegally 1 time  
(2, 7) occurred 1 time  
(3, 1) occurred 1 time  
(4, 1) occurred 25 times  
(4, 4) occurred 58 times  
(4, 7) occurred 34 times  
(5, 3) occurred 1 time  
(5, 4) occurred 1 time  
(5, 11) occurred 1 time  
(5, 11) occurred illegally 1 time  
(5, 14) occurred 1 time  
(5, 15) occurred 1 time  
(5, 16) occurred 1 time  
(5, 18) occurred 1 time  
(5, 22) occurred 2 times  
(5, 23) occurred 3 times  
(5, 28) occurred 1 time  
(5, 29) occurred 1 time  
(5, 30) occurred 1 time  
(5, 34) occurred 1 time

### 12.2.3 Designer

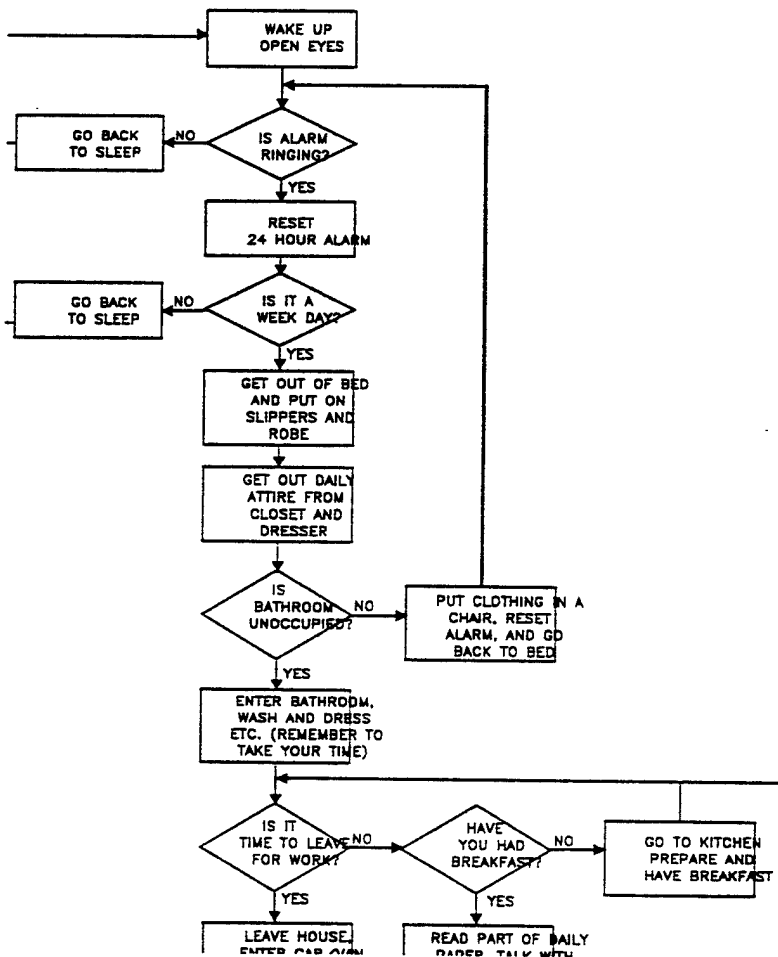


## 12.2.4 Output Harvard Graphics

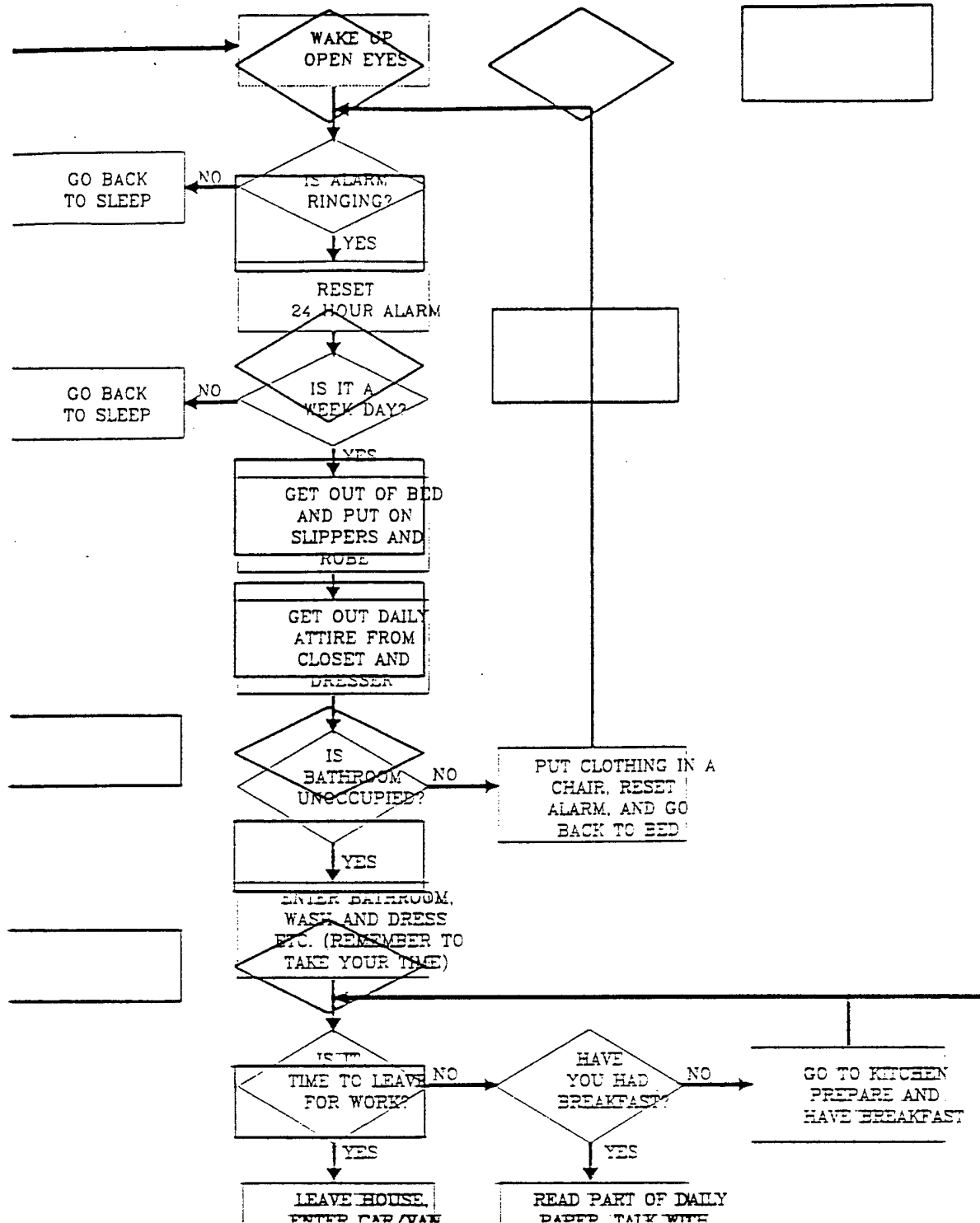


HG305 - C003

## 12.2.5 Output for review

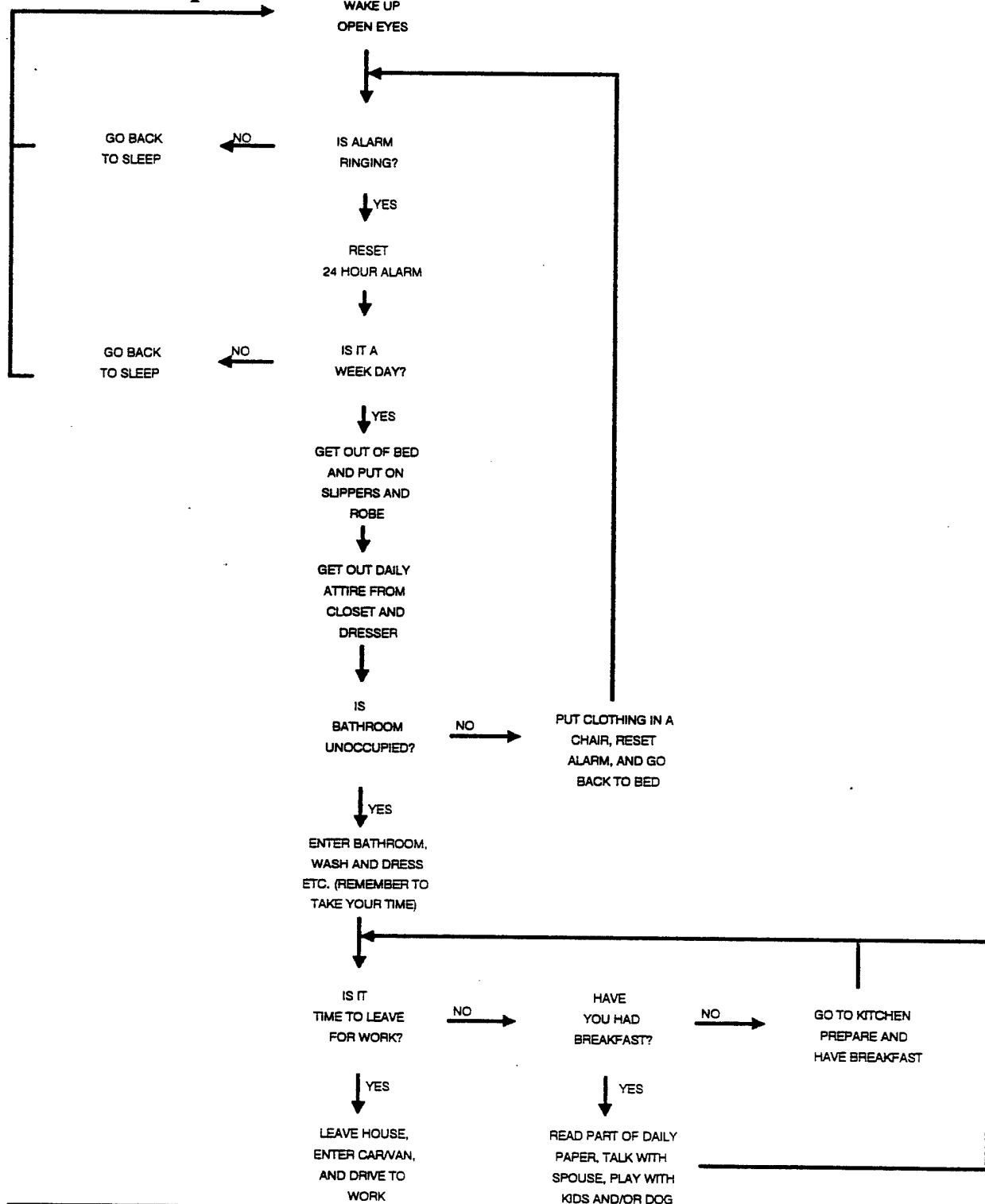


## 12.2.6 Output cgm2draw/IslandDraw

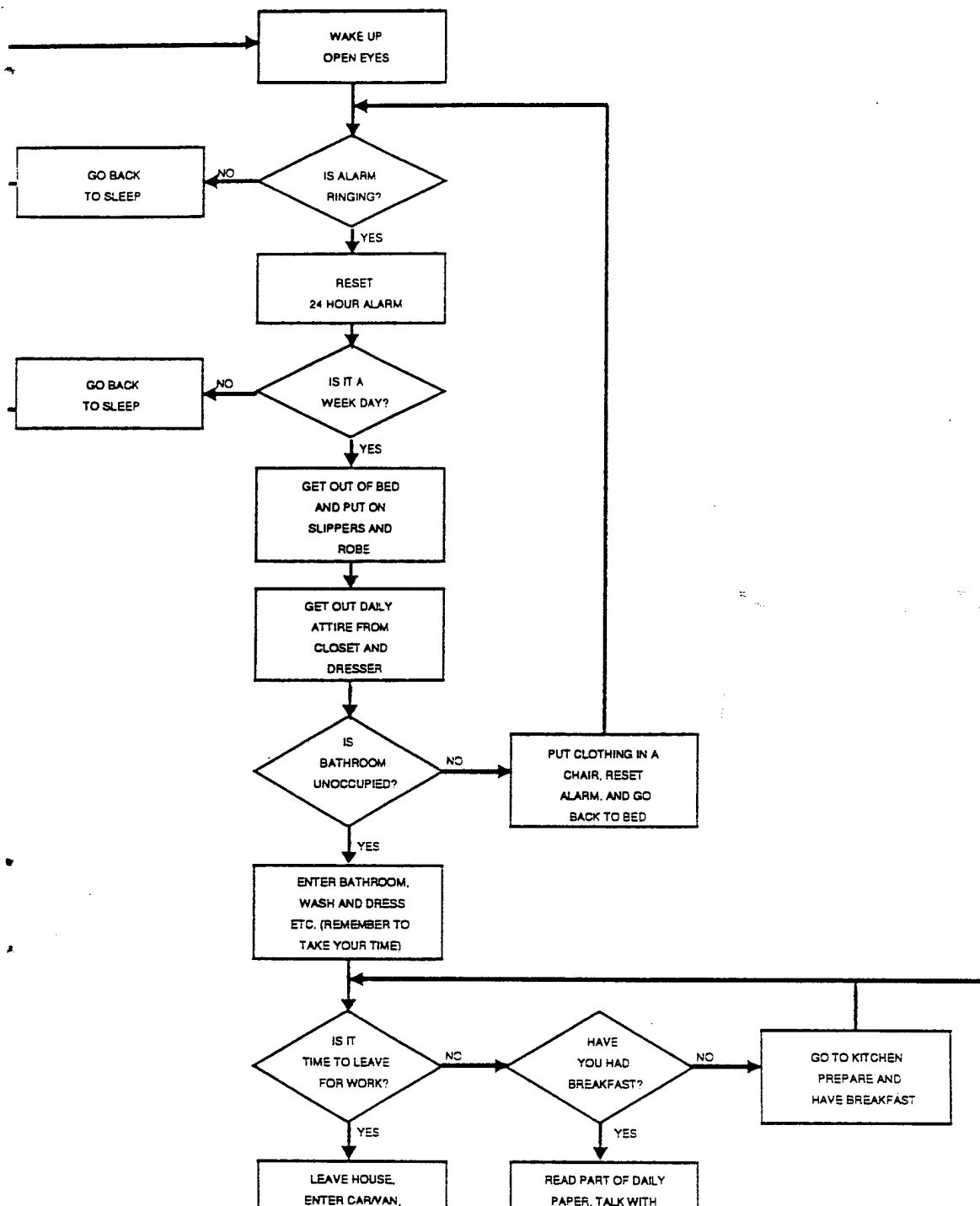




## 12.2.7 Output Ventura Publisher



## 12.2.8 Output IslandDraw



---

## 12.3 File D001C005

### 12.3.1 Parser Log MetaCheck

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 04/15/93 Time: 16:02:57

Metafile Examined : i:\9337\c005

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

===== Trace Report =====

Tracing not selected.

===== CGM Conformance Violation Report =====

No Errors Detected

===== CALS CGM Profile (MIL-D-28003) Report =====

No profile discrepancies detected.

===== Conformance Summary Report =====

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 04/15/93 Time: 16:02:59

Name of CGM under test: i:\9337\c005.cgm

Encoding : Binary

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

BEGIN METAFILE string : "Created file heart1\_cgm from heart1\_cgm.sty"  
METAFILE DESCRIPTION : "Interleaf Inc. MDL/G CGM 1992 \*\*\*  
MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 392; string contains: "heart1"

---

Conformance Summary : This file conforms to the CGM specification.  
This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested  
43 Elements Tested  
706 Octets Tested

=====

No Errors Were Detected
-------------------------

=====

===== End of Conformance Report =====

## 12.3.2 validcgm Log

Analysis for file c005.cgm using table table  
ERROR: invalid times used per CGM (2), std B  
ERROR: invalid times used per Picture (2), std B  
(14, 260) (1, 12, 12) Metafile Defaults Replacement  
ERROR: illegal in this state (2), std B  
ERROR: required precursor (0, 3) not yet seen  
(14.1, 0) (2, 6, 8) VDC Extent (0, 0) (32767, 32767)  
ERROR: invalid times used per CGM (3), std B  
ERROR: invalid times used per Picture (3), std B  
(15, 276) (1, 12, 6) Metafile Defaults Replacement  
ERROR: illegal in this state (2), std B  
ERROR: required precursor (0, 4) not yet seen  
(15.1, 0) (5, 11, 2) Text Precision Stroke  
(0, 1) occurred 1 time  
(0, 2) occurred 1 time  
(0, 3) occurred 1 time  
(0, 4) occurred 1 time  
(0, 5) occurred 1 time  
(1, 1) occurred 1 time  
(1, 2) occurred 1 time  
(1, 3) occurred 1 time  
(1, 4) occurred 1 time  
(1, 5) occurred 1 time  
(1, 6) occurred 1 time  
(1, 7) occurred 1 time  
(1, 8) occurred 1 time  
(1, 9) occurred 1 time  
(1, 10) occurred 1 time

(1, 11) occurred 1 time  
(1, 12) occurred 3 times  
(1, 12) occurred illegally 2 times  
(1, 13) occurred 1 time  
(1, 15) occurred 1 time  
(2, 1) occurred 1 time  
(2, 2) occurred 1 time  
(2, 3) occurred 1 time  
(2, 4) occurred 1 time  
(2, 5) occurred 1 time  
(2, 6) occurred 2 times  
(2, 6) occurred illegally 1 time  
(2, 7) occurred 1 time  
(3, 1) occurred 1 time  
(4, 1) occurred 2 times  
(4, 4) occurred 4 times  
(4, 13) occurred 2 times  
(5, 3) occurred 1 time  
(5, 4) occurred 1 time  
(5, 11) occurred 1 time  
(5, 11) occurred illegally 1 time  
(5, 14) occurred 1 time  
(5, 15) occurred 1 time  
(5, 16) occurred 1 time  
(5, 18) occurred 1 time  
(5, 34) occurred 1 time

### 12.3.3 Output Ventura Publisher

